



OIEP

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/057,558

DATE: 02/16/2002

TIME: 12:27:26

Input Set : N:\Crf3\RULE60\10057558.txt

Output Set: N:\CRF3\02152002\J057558.raw

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APR 03 2002

TECH CENTER 1600/2900

ENTERED

4 <110> APPLICANT: Chapman, Sean  
 5 Dawson, William O.  
 6 Donson, Jonathan  
 7 Kumagai, Monto H.  
 8 Lewandowski, Dennis J.  
 9 Lindo, John A.  
 10 Pogue, Gregory P.  
 11 Shivprasad, Shailaja  
 13 <120> TITLE OF INVENTION: METHOD FOR ENHANCING RNA OR PROTEIN  
 14 PRODUCTION USING NON-NATIVE 5' UNTRANSLATED SEQUENCES IN  
 15 RECOMBINANT VIRAL NUCLEIC ACIDS  
 18 <130> FILE REFERENCE: 008010137US08  
 20 <140> CURRENT APPLICATION NUMBER: 10/057,558  
 21 <141> CURRENT FILING DATE: 2002-01-25  
 23 <150> PRIOR APPLICATION NUMBER: 09/359,299  
 24 <151> PRIOR FILING DATE: 1999-07-21  
 26 <160> NUMBER OF SEQ ID NOS: 49  
 28 <170> SOFTWARE: FastSEQ for Windows Version 3.0  
 30 <210> SEQ ID NO: 1  
 31 <211> LENGTH: 117  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Tobacco mosaic virus  
 35 <220> FEATURE:  
 36 <221> NAME/KEY: CDS  
 37 <222> LOCATION: (49)...(117)  
 39 <400> SEQUENCE: 1  
 40 gttttaaata cgctcgagat caatccatct ccgaagtgtg tctgcagc atg cag gtg 57  
 41 Met Gln Val  
 42 1  
 44 ctg aac acc atg gtg aac aaa cac ttc ttg tcc ott tgc gtc ctc atc 105  
 45 Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val Leu Ile  
 46 5 10 15  
 48 gtc ctc atc gtc 117  
 49 Val Leu Ile Val  
 50 20  
 53 <210> SEQ ID NO: 2  
 54 <211> LENGTH: 23  
 55 <212> TYPE: PRT  
 56 <213> ORGANISM: Tobacco mosaic virus  
 58 <400> SEQUENCE: 2  
 59 Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser  
 60 1 5 10 15  
 61 Val Leu Ile Val Leu Leu Gly

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62          20
64 <210> SEQ ID NO: 3
65 <211> LENGTH: 138
66 <212> TYPE: DNA
67 <213> ORGANISM: Tobacco mosaic virus
69 <400> SEQUENCE: 3
70   ctcgagatca atcatccatc tccgaagtgt gtctgcagca tgcaggtgct gaacaccatg      60
71   gtgaacaac acttcttgct cctttcggtc ctcatcgctc tccttggcct ctctccaac      120
72   ttgacagccg ggcaagtc                                138
74 <210> SEQ ID NO: 4
75 <211> LENGTH: 33
76 <212> TYPE: PRT
77 <213> ORGANISM: Tobacco mosaic virus
79 <400> SEQUENCE: 4
80   Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser
81   1          5          10          15
82   Val Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Gln
83   20          25          30
84   Val
87 <210> SEQ ID NO: 5
88 <211> LENGTH: 109
89 <212> TYPE: DNA
90 <213> ORGANISM: Tobacco mosaic virus
92 <400> SEQUENCE: 5
93   ctcgaggtgc atgcaggtgc tgaacaccat ggtgaacaaa cacttcttgt ccctttcggt      60
94   cctcatcgct ctcttggcc tctctccaa cttgacagcc gggcaagtc      109
96 <210> SEQ ID NO: 6
97 <211> LENGTH: 31
98 <212> TYPE: PRT
99 <213> ORGANISM: Tobacco mosaic virus
101 <400> SEQUENCE: 6
102  Met Gln Val Leu Asn Thr Met Asn Lys His Leu Ser Leu Ser Val Leu
103  1          5          10          15
104  Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Gln Val
105  20          25          30
107 <210> SEQ ID NO: 7
108 <211> LENGTH: 259
109 <212> TYPE: DNA
110 <213> ORGANISM: Tobacco mosaic virus
112 <400> SEQUENCE: 7
113  ctcgagatca atcatccatc tccgaagtgt gtctgcacca tgcaggtgct gaacaccatg      60
114  gtgaacaaca cttcttgctc ctttcggtcc tcatcgctct ccttggctc tctccaact      120
115  tgacagcccg catgcaggtg ctgaacacca tggatgaaca acacttcttg tcccttttg      180
116  tccctttcgg tctcatcgct cctccttggc ctctctcca acttgacagc cggcaagtcg      240
117  gccagttta aacggtacc                                259
119 <210> SEQ ID NO: 8
120 <211> LENGTH: 60
121 <212> TYPE: PRT
122 <213> ORGANISM: Tobacco mosaiv virus

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124 <400> SEQUENCE: 8
125 Met Gln Val Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val
126 1 5 10 15
127 Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met Gln
128 20 25 30
129 Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Val Leu Ile Val
130 35 40 45
131 Leu Leu Gly Leu Ser Ser Leu Thr Ala Gly Gln Val
132 50 55 60
134 <210> SEQ ID NO: 9
135 <211> LENGTH: 170
136 <212> TYPE: DNA
137 <213> ORGANISM: Tobacco mosaic virus
139 <220> FEATURE:
140 <221> NAME/KEY: CDS
141 <222> LOCATION: (51)...(170)
143 <400> SEQUENCE: 9
144 agatccttaca gtatcactac tccatctcag ttctgtgttct tctcattaat atg cag 56
145 Met Gln
146 1
148 gtg ctg aac acc atg gtg aac aaa cac ttc ttg tcc ctt tct gtc ctc 104
149 Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser Val Leu
150 5 10 15
152 atc gtc ctc ctt ggc ctc tcc tcc aac ttg aca gcc ggc atg ctc cac 152
153 Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met Leu His
154 20 25 30
156 ctg act cct gag gag aag 170
157 Leu Thr Pro Glu Glu Lys
158 35 40
161 <210> SEQ ID NO: 10
162 <211> LENGTH: 40
163 <212> TYPE: PRT
164 <213> ORGANISM: Tobacco mosaic virus
166 <400> SEQUENCE: 10
167 Met Gln Val Leu Asn Thr Met Val Asn Lys His Phe Leu Ser Leu Ser
168 1 5 10 15
169 Val Leu Ile Val Leu Leu Gly Leu Ser Ser Asn Leu Thr Ala Gly Met
170 20 25 30
171 Leu His Leu Thr Pro Glu Glu Lys
172 35 40
174 <210> SEQ ID NO: 11
175 <211> LENGTH: 149
176 <212> TYPE: DNA
177 <213> ORGANISM: Tobacco mosaic virus
179 <220> FEATURE:
180 <221> NAME/KEY: CDS
181 <222> LOCATION: (51)...(146)
183 <400> SEQUENCE: 11
184 agatccttaca gtatcactac tccatctcag ttctgtgttct tctcattaat atg cag 56

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250 <211> LENGTH: 34
251 <212> TYPE: DNA
252 <213> ORGANISM: Nicotiana benthamiana
254 <400> SEQUENCE: 18
255   cgtccagggtt gggcatacag cagtgtacat atgc           34
257 <210> SEQ ID NO: 19
258 <211> LENGTH: 41
259 <212> TYPE: DNA
260 <213> ORGANISM: Nicotiana benthamiana
262 <400> SEQUENCE: 19
263   cgggggtaccg tttaaactgg gcccacaaccg ggggttccgg g           41
265 <210> SEQ ID NO: 20
266 <211> LENGTH: 38
267 <212> TYPE: DNA
268 <213> ORGANISM: Nicotiana benthamiana
270 <400> SEQUENCE: 20
271   taagcatgct gaaaggagaa gaacttttca ctggagtt           38
273 <210> SEQ ID NO: 21
274 <211> LENGTH: 43
275 <212> TYPE: DNA
276 <213> ORGANISM: Nicotiana benthamiana
278 <400> SEQUENCE: 21
279   ctacctagga gatatacttg tatagttcat ccatgccatg tgt           43
281 <210> SEQ ID NO: 22
282 <211> LENGTH: 34
283 <212> TYPE: DNA
284 <213> ORGANISM: Nicotiana benthamiana
286 <400> SEQUENCE: 22
287   cgtccagggtt gggcatacag cagtgtacat atgc           34
289 <210> SEQ ID NO: 23
290 <211> LENGTH: 41
291 <212> TYPE: DNA
292 <213> ORGANISM: Nicotiana benthamiana
294 <400> SEQUENCE: 23
295   cgggggtaccg tttaaactgg gcccacaaccg ggggttccgg g           41
297 <210> SEQ ID NO: 24
298 <211> LENGTH: 35
299 <212> TYPE: DNA
300 <213> ORGANISM: Tobacco mosaic virus
302 <400> SEQUENCE: 24
303   tcgagatcaa tcatccatct ccgaagtgtg tctgc           35
305 <210> SEQ ID NO: 25
306 <211> LENGTH: 34
307 <212> TYPE: DNA
308 <213> ORGANISM: Tobacco mosaic virus
310 <400> SEQUENCE: 25
311   tccctagggtc agattttctc ccagattgcg tagc           34
313 <210> SEQ ID NO: 26
314 <211> LENGTH: 38

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VERIFICATION SUMMARY

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L:413 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37



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Remarks:

Order of re-scan issued on .....